



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/502,882	02/11/2000	Dhritiman Banerjee	56115534-118128	5822

22046 7590 07/26/2004

LUCENT TECHNOLOGIES INC.  
DOCKET ADMINISTRATOR  
101 CRAWFORDS CORNER ROAD - ROOM 3J-219  
HOLMDEL, NJ 07733

EXAMINER

HOANG, THAI D

ART UNIT	PAPER NUMBER
----------	--------------

2667

13

DATE MAILED: 07/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/502,882

**Applicant(s)**

BANERJEE ET AL.

**Examiner**

Thai D Hoang

**Art Unit**

2667

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-9 and 11-26 is/are rejected.
- 7) ☒ Claim(s) 4 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

The disclosure is objected to because of the following informalities:

The cross-reference to related application portion on page 1 of the specification misses the serial number of the Patent Applications.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5-9 and 11-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al., US Patent No. 6,298,038 B1 in view of Dolby et al., US Patent No. 6,038,231, hereafter referred to as Martin and Dolby respectively.

Regarding claims 1, 5, 7, 11, 13-15 and 18, Martin discloses a configuration for a transport node of a telecommunication system comprises a pair of transparent mux/demux provided at two sites. Martin discloses that the system comprises a Tmux 40, which comprises a plurality of input/output ports 61-64 coupled to a plurality of gigabit links OC-48, multiplexes data for outputting multiplexed data at the output port 71 and transmits multiplexed data to the receiving side 50 through a fiber optic link 30; see figures 4-7; col. 1, line 66 –col.

Art Unit: 2667

2, line 18; col. 7, lines 34-47 (a first plurality of Gigabit Ethernet input/output ports, each port being adapted to be coupled to a first Gigabit Ethernet link carrying data packets; a multiplexer interface coupled to said first input/output ports, said multiplexer interface being adapted to receive said data packets; a multiplexer coupled to said multiplexer interface, said multiplexer being adapted to receive said data packets from said multiplexer interface and to multiplex said data packets; a transmitter coupled to said multiplexer; and an optical link coupled to said transmitter being adapted to transmit the multiplexed data packets over said optical link to a receiver). Also, Martin discloses that the Tmux 40 comprises a fault detector 70, which is provided for detecting errors on the input span and transmitting them to the far-end TMux. In addition, Martin teaches that a line alarm inhibit signal (AIS) is generated if a line failure condition occurs on either tributary input span 51, 53, 55, 57 or the optical link 30; col. 13, line 66 –col. 14, line 6; col. 14, lines 38-60. Martin does not clearly teach that the Tmux message or AIS is in place of data packets. However, Dolby discloses a method and system called data suppression and regeneration. Dolby teaches that if a cell is lost or misinserted, a dummy cell is inserted; col. 10, lines 43-67. It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt a dummy cell disclosed by Dolby in to Martin's system in order to maintain system synchronization, and adapt the Ethernet protocol into Martin's system for expanding the market, since it could be adapted with conventional systems used Ethernet protocol in the network.

Art Unit: 2667

Regarding claims 2 and 8, Martin discloses the system comprises a Tmux 50 for receiving multiplexed data transmitted from Tmux 40. The Tmux 50 comprises a demultiplexer to demultiplex data to a plurality of output ports, which are coupled to a plurality of gigabit links 52, 54, 56 and 58; see figure 6 (said a receiver, which is coupled to said optical link and is adapted to receive said multiplexed data packets from said optical link; a demultiplexer coupled to said receiver, said demultiplexer being adapted to demultiplex the received multiplexed data packets; and a demultiplexer interface coupled to said demultiplexer, said demultiplexer interface being adapted to receive the demultiplexed data packets, wherein said demultiplexer interface comprises a plurality of second optical transceivers that are each adapted to be coupled to a plurality of second Gigabit Ethernet links). Also, Martin discloses that the Tmux 50 comprises a fault detector 90, which detects error and failure of the received data and alarm to the effected port; col. 14, lines 7-20 and 55-67.

Regarding claims 3 and 9, Martin teaches that the system uses WDM, therefore, it indicates that the system comprises a photo detector to detect failures or errors of the data signal. Furthermore, Tmuxes 40 and 50 are multiplexers/demultiplexers for transmitting and receiving data in both directions (figs 2-7; col. 1, line 67, col. 2, line 60, col. 3, line 5). Therefore, if the Tmux 40 could be able to detect failures of the links 51, 53, 55, 57 and generate AIS signal (col. 7, lines 34-47, col. 14, lines 38-54), the Tmux 50 could be able to detect failures of the links 52, 54, 56 and 58 and generate AIS signal, similarly (The system of claim 2, further comprising a photo detector circuit coupled to said

Art Unit: 2667

demultiplexer; wherein said photo-detector circuit is adapted to detect a second loss of signal in said optical link and in response, generate a deactivate signal and transmit the deactivate signal to said second optical transceivers).

Regarding claims 6 and 12, Martin does not teach the Tmux multiplexes data based on bit by bit basic. However, bit multiplexer is well known in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the method of bit multiplexing into Martin's system in order to speed up the system.

Regarding claims 16 and 19, Martin's system inherently encodes data using a predetermined code. Martin does not disclose the data are carried in variable length packets. However, the variable length packets are well known in the art, such as Ethernet packet. It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt variable length packets to Martin's system for advantages as cited above with respect to claim 1.

Regarding claims 17 and 20, when a loss signal is detected, the system disclosed by Martin inherently does not produce a data code of the packet (said fault identifying signal is a signal that said predetermined code does not produce.)

Regarding claims 21-26, Tuxes 40 and 50 in the system disclosed by Martin inherently insert AIS to the data as long as the system detects any failure in the links (signal loss code insert is transmitted continuously by said transmitter as long as said first loss of signal is detected.)

***Allowable Subject Matter***

Claims 4 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

Applicant's arguments filed on 05/03/2004 have been fully considered but they are not persuasive.

Regarding claim 1, in the remarks (first argument) from page 9, line 25- page 10, line5, applicants argue the BIP-8 bytes disclosed in the reference are generated and inserted before detecting lost of signal. Examiner believes Applicants are misunderstood. Examiner agrees the BIP-8 bytes disclosed in the reference are generated and inserted before scrambling. In addition, the reference also teaches that the fault detector 70 is provided for detecting errors on the input span and transmitting them to the far-end TMux, so that the trib systems detect errors appropriately based on BIP-8 bytes B1, B2 and B3. Also, the fault detector 70 also monitors each tributary input for hard failure, and if detected, triggers line AIS insertion over the trib signal portion of the OC-192 SC; col. 11, lines 13-30.

Page 10, lines 6-11 (second argument), Applicants argue that the AIS, disclosed in Martin's system, is added to the outgoing signal rather than being transmitted in place of data packets. Examiner respectfully agrees that Martin does not teach the error code is insert in place of data packets. However, Dolby teaches this feature as shown above with respect to claim 1.

Art Unit: 2667

Page 10, lines 12-16 (third argument), Applicants argue that in the Martin's system the lost signal is transmitted in a separate path with payload signal. Examiner respectfully disagrees. Applicants are directed to figure 6 and col. 12, lines 40-50, the reference teaches that the lost signal from the fault detector 70 is combined and multiplexed with payload signal at SC output port 71. Moreover, logically, it does not make sense if the lost signal is detected transmitted in a separate path with payload signal in the Tmux 40.

Page 10, lines 17-24 (fourth argument), Applicants argue that the dummy cell disclosed in the Dolby's system does not a signal loss code as recited in claim. Examiner respectfully disagrees. Applicants are directed to figures 7-8 and col. 10, lines 43-58, where the reference teaches if a cell is lost or misinserted, a dummy cell is inserted. Therefore, the dummy cell inserted in place of lost or misinserted cell is considered as a "lost code in place of data packet" as recited in the claim.

Similarly, claims 7, 13-15 and 18 are rejected for the same reasons as shown above.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory



Art Unit: 2667


period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai D Hoang whose telephone number is (703) 305-3232. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (703) 305-4378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thai Hoang



CHI PHAM  
SUPERVISORY PATENT EXAMINER  
BIOLOGY CENTER 2600 7/20/04